LTC 0335 & LTC 0355

Security Systems

EN Installation Manual
Digital Monochrome Cameras

FR Manuel d'installation
Caméra Numérique Noir et Blanc

DE Installationsanleitung
Digitale Schwarz-Weiß-Kamera

ES Manual de instalación
Cámara Digitales de Blanco y Negro

NL Installatiehandleiding
Digitale Zwart/Wit Camera

IT Manuale d'installazione
Videocamera Digitale in Blanco e Nero

PT Manual de Instruções
Câmara Digital Monocromática

ZH 安裝手冊
數字黑白攝像機

BOSCH

TABLE OF CONTENTS

ENGLISH 1
FRANÇAIS 14
DEUTSCH 24
ESPAGÑOL 34
NEDERLANDS 44
ITALIANO 54
PORTUGUÊS 64
CHINESE 74

SAFETY PRECAUTIONS

DANGER

The lighting flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk to persons.

WARNING

The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance accompanying the appliance.

CAUTION

To reduce the risk of electric shock, do not remove cover (or back). No user - servicable parts inside. Refer servicing to qualified service personnel.

Important Safeguards

1. Keep these instructions.
2. Heed all Warnings.
3. Follow all instructions.
4. Do not use the apparatus near water.
5. Clean with a dry cloth only.
6. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus that generates heat (including amplifiers).

7. Do not defeat the purpose of a polarized or grounded mains plug. A polarized plug has dissimilar prongs (one wider than the other) to ensure correct polarity, while a grounded plug has an additional 'ground' prong provided for your safety. If the plug supplied with the apparatus does not fit into your outlet, consult an electrician for advice.
8. Protect the power-supply cord from being walked on or pinched, particularly close to plugs, receptacles and the point where it exits from the apparatus.
9. Only use attachments and accessories (including stands, tripods, mounting brackets and housings) specified or recommended by the manufacturer.
10. Unplug the apparatus during lightning storms and when unused for extended periods.
11. Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
12. Servicing is required when the apparatus does not function in the normal way, has been dropped, if liquid has been spilled on it, or if it has been exposed to rain or water. Unplug the unit from the outlet and refer servicing to qualified service personnel.
13. An all-pole mains switch with contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

FCC INFORMATION

CAUTION

Any changes or modifications to construction of this device that are not expressly approved by the party responsible for compliance could void the userfs authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SPECIFICATIONS

	LTC 0335/x0		LTC 0355/x0	
	Standard resolution		High resolution	
Standard	CCIR	EIA	CCIR	EIA
Active pixels (H x V)	512 x 582	512 x 492	752 x 582	768 x 494
Imager	1/3" interline CCD			
Resolution	380 TVL		570 TVL	
Minimum illumination	<0.12 lux		<0.09 lux	
Signal-to-noise ratio	> 50 dB			
Video output	1 Vpp, 75Ω			
Synchronization	Internal or Line-Lock (selectable)			
Shutter	Auto / Flickerless / Off (selectable) CCIR: 1/50 - 1/500000 - EIA: 1/60 - 1/600000			
Autoblack	On / Off (selectable)			
AGC	On (0-21 dB)/ Off (0 dB) (selectable)			
BLC	On / Off (selectable)			
Lens mount	C and CS compatible			
ALC	Video-iris or DC-iris (auto detect)			
Power supply	LTC 03x5/10 & /20: 12 to 28 VAC or 11 to 36 VDC LTC 03x5/50 & /60: 85 to 265 VAC			
Power consumption	<4 W			
Dimensions (HxWxL)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch without lens)			
Weight	450 g (0.99 lbs) (without lens)			
Camera mount	Two 1/4" 20 UNC - isolated (bottom) and non-isolated (top)			
Operating temperature	-20°C to +50°C (-4°F to +122°F)			
Controls	On-screen display (OSD) with softkey controls			

Type number overview

	Low voltage		High voltage	
	CCIR (Eur.)	EIA (USA)	CCIR (Eur.)	EIA (USA)
Standard resolution	LTC 0335/10	LTC 0335/20	LTC 0335/50	LTC 0335/60
High resolution	LTC 0355/10	LTC 0355/20	LTC 0355/50	LTC 0355/60

UNPACKING

Unpack carefully and handle the equipment with care. The packaging contains:

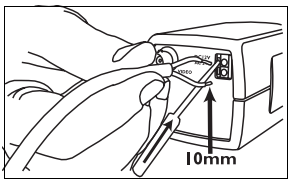
- Camera
- CCD protection cap
- Spare lens connector (male)
- These Instructions

Note:
If equipment appears to have been damaged during shipment, repack it in the original packaging and notify the shipping agent or supplier.

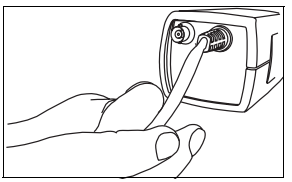
CONNECTION

Power

LTC 03x5/10 and /20

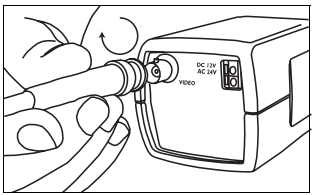


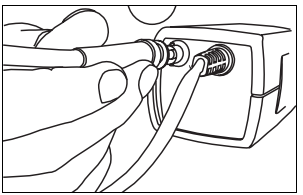
LTC 03x5/50 and /60.



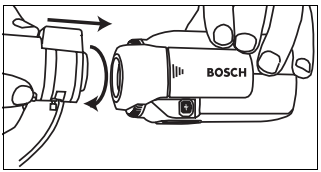
To open the quick-connect, push in on the tabs.
Connections are not polarity sensitive
Use stranded or solid wire AWG16 to AWG22, cut back 10mm (0.4") of insulation.

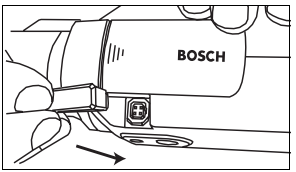
Composite Video



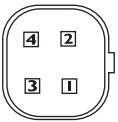


LENS MOUNTING





Pin	Video iris lens	DC iris lens
1	Supply (11 V, 50 mA max.)	Damp-
2	Not used	Damp+
3	Video signal 1 Vpp, 1 kΩ	Drive+
4	Ground	Drive-



- Video-iris and DC-iris lenses are recommended for the best picture performance.
- The camera automatically detects the type of lens used, and optimizes performance accordingly.
- A spare male lens connector is provided if required.

CAUTION

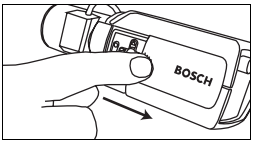
- To avoid damaging the CCD sensor when using a C-mount lens, turn the 'green' back-focus ring counter clockwise until it stops ('Back focus adjustment') before mounting the lens.
- Lenses weighing more than 0.5 kg (1.1lbs) must be separately supported.

Note:
If a short circuit is detected on the lens connector, the on-screen display (OSD) failure message 'LENS SHORT CIRCUIT' is shown. The lens circuit is automatically disabled to avoid internal damage. Remove the lens connector and check the pin connections.

Back focus adjustment

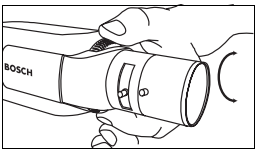
- Camera accepts both C and CS-mount lenses.

1. Unlock the back focus locking button.
2. Turn the back focus adjustment as required. (See Note 1).
3. Lock the back focus locking button.



Notes:

1. The camera's unique "Lens Wizard" allows focusing to optimize picture sharpness in both bright and low level lighting. The lens wizard can be found in the Installer menu.



2. When back focusing vari-focus lenses, it must be possible to obtain a sharp picture in both wide-angle and tele positions, and for both far and near focus.
3. When back focusing zoom lenses, ensure the object of interest remains in focus throughout the entire zoom range of the lens. (See Advanced Set up).

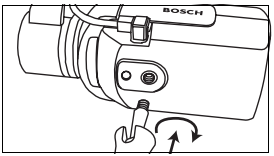
CAUTION

Do not point the camera/lens into direct sunlight. When viewing an outdoor scene, a video- or DC-iris lens is recommended.

MOUNTING THE CAMERA

The camera can be mounted from the top or bottom.

Note:
The BOTTOM mounting is isolated from ground.

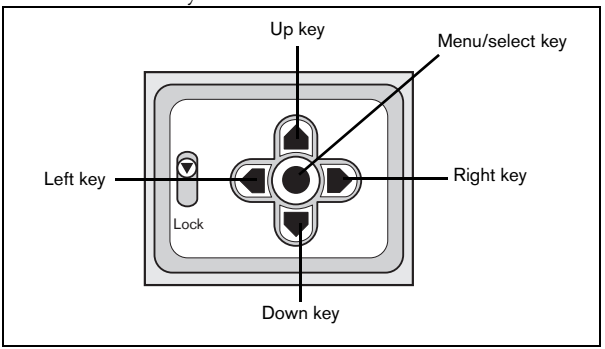


ADVANCED SET-UP

The camera will normally give an optimal picture without the need for further adjustments. However for special circumstances advanced set up options are available.

Hints for menu navigation

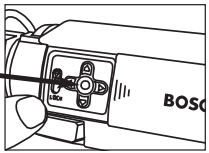
How to use the 5 keys

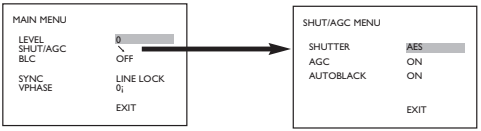


- Press the menu/select key to access the menus or to move to the next or previous menu.
- Press the menu/select key for approximately 1.5 seconds to open the **Installer** menu.
- Use the up or down keys to scroll up or down through a menu.
- Use the left or right keys to move through options or to set parameters.
- When in a menu, quickly pressing the menu/select key twice restores the selected item to its factory default.
- To close all menus at once from any menu, select the **Exit** item and hold down the menu/select key until the menu display disappears.

Menu Navigation

Press the menu button

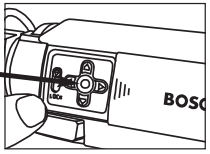


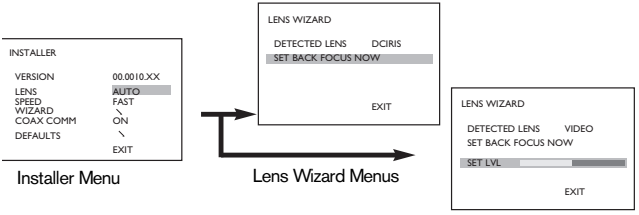


Main Menu

Shutter/AGC Menu

Press the menu button for more than 5sec.





Installer Menu

Lens Wizard Menus

Main menu

Function	Selection	Description
LEVEL	-15 - 0 - +15	Adjusts video level.
SHUT/AGC	Select next menu	Shutter / Automatic Gain Control menu.
BLC ON	ON OFF	When 'ON', the level is optimized at the center of OFF the screen. Parts outside the center may be under- or over-exposed (this is normal).
SYNC	LINE LOCK	Select 'LINE LOCK' to synchronize with the power INTERNAL supply frequency. Select 'INTERNAL' for use with internal synchronization (automatically selected with DC supply).
V PHASE	0-358°	Adjusts the vertical phase offset (when in 'LINE LOCK' mode).
EXIT		Exit the menu.

Shutter/AGC menu

Function	Selection	Description
SHUTTER	AES	(AES) Auto-shutter sets the optimum shutter speed FL for manual iris lenses. (FL) Flickerless mode avoids OFF interference from light sources (recommended for use with video-iris or DC-iris lenses only).
AGC	ON/OFF	Automatic gain control
AUTOBLACK	ON/OFF	Autoblack automatically increases the visibility of details.
EXIT		Exit the menu.

Accessing installer menu

- To access the installer menu, press and hold the menu/select key for five seconds.

Installer menu

Function	Selection	Description
VERSION		Read-only firmware release number (for service purposes).
LENS	AUTO	Automatically detect lens type. A different lens type can be selected.
SPEED	FAST	Selects the response time of DC-iris lenses. Some lenses require slow lens control to avoid overshoots.
WIZARD		Access the lens wizard menu.
COAX COM	ON/OFF	If OFF Bilinx™ communication is disabled
DEFAULTS		Select next menu Return all set-up settings to factory defaults.
EXIT		Exit the menu.

Lens wizard menu

Function	Description
SET BACK FOCUS NOW	Back focus the lens (see 'Back focus adjustment'). The scene is focused at maximum lens opening to ensure that the object of interest remains in focus in bright and low-light conditions.
SET LVL	When a Video-iris lens is detected, a level potentiometer is displayed to obtain the best picture performance. The lens wizard includes a level detector meter that must be set to the center using the potentiometer for best results.
EXIT	Exit the menu.

Adjustment procedure DC-iris Lens:

1. Unlock the back focus locking button.
2. Access the "Lens Wizard" menu.
3. The "SET BACK FOCUS NOW" option is highlighted in the menu.
4. Turn the back focus adjustment as required.
5. Lock the back focus locking button.
6. Exit the menu.

Adjustment procedure Manual-iris Lens:

1. Unlock the back focus locking button.
2. Adjust the lens to the maximum lens opening.
3. Turn the back focus adjustment as required.
4. Lock the back focus locking button.

Adjustment procedure Video-iris Lens:

1. Unlock the back focus locking button.
2. Access the "Lens Wizard" menu.
3. The "SET BACK FOCUS NOW" option is highlighted in the menu.
4. Turn the back focus adjustment as required.
5. Select the "SET LVL" option in the menu, and the LEVEL bar appears.
6. Adjust the level potentiometer located on the lens until the LEVEL bar is in the central position.
7. Lock the back focus locking button.
8. Exit the menu.

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